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| EXAMINER | |
|---|---|
| THAKUR, VIREN A | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1761 | |

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/621,190 | PERSOONS, GUSTAAF | |
| | Examiner | Art Unit | |
| | Viren Thakur | 1761 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/22/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

   The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-9 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims specify the limitation **"at least a portion."** It is unclear as to what constitutes a portion of the cooling phase of sterilization. The examiner has interpreted a portion to include any instance of the cooling phase of the sterilization process.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

   A person shall be entitled to a patent unless –

   (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Lagerstedt (US 6,177,048 B1). Lagerstedt discloses a method of processing a food product in a retort vessel comprising, placing the food product in a container (Column 2, Line 31-32) having a fiber-based material component (Column 2, Line 34-35) and sealing the container closed (Column 2, Line 46-49), the container having at least one exposed edge of paperboard (Column 3, Line 53-55). Lagerstedt discloses a method for sterilizing fiber-based containers, and therefore the entire fiber based container will be exposed to sterilization conditions. Thus the edge of the container will also be exposed to sterilization conditions. Futhermore, Lagerstedt discloses placing the closed container in the vessel (Column 2, Line 33-34) and cooking the food product therein. It is further known that if a food product is exposed to high temperatures that it will be cooked. The time that the food product is exposed to high temperatures will determine how thoroughly it is cooked. Lagerstedt further discloses regulating the interior conditions of the vessel using a control temperature (Column 2, Line 37-39) and a control pressure (Column 2, Line 35-37); and cooling the food product within the vessel (Column 2, Line 39); wherein cooling the food product includes reducing the control temperature within the vessel according to a predefined temperature schedule (Column 2, Line 39-42) and reducing the control pressure within the vessel according to a predefined pressure schedule wherein (Column 3, Line 39-43); at least portions of the pressure schedule following the reduction in pressure resulting from the temperature schedule

(Column 2, Line 42-43; Column 4, Line 62-65). The examiner has interpreted that a predefined temperature and pressure schedule comprise any range of temperature and pressure to which the sterilization process is raised or lowered. Therefore, Lagerstedt discloses lowering the temperature to a value greater than 70°C, which is thus a predefined schedule. By the ideal gas law, pressure is dependent on temperature, a pressure schedule is also intrinsically present when using a temperature schedule. Nevertheless, in determining to lower the temperature to a value greater than 70°C, Lagerstedt is also disclosing a specified pressure. As recited in Claim 4, Lagerstedt discloses the method of processing a food product is a static process (Column 2, Line 33-34). It is known that when a container is placed in an autoclave, the container is known to be stationary during sterilization.

5. Claims 10, 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Ringdahl et al. (US 5,958,486).

**As recited in Claim 10**, Ringdahl et al. disclose a method of batch processing a food product (Column 1, Line 4-10) located in a closed container (Column 2, Line 43) having a paperboard material component (Column 4, Line 26-28), the method comprising: closing the container using a packaging method whereby at least one edge of paperboard material is exposed to the conditions exterior to the container, and placing the closed container in a retort vessel (Column 3, Line 40-43); conducting a cooking phase within the vessel (Column 3,

Line 44-45); conducting a cooling phase within the vessel (Column 3, LIne 44-46), during which the temperature within the vessel is reduced (Column 3, Line 54-56); during the cooling phase, a pressure exists within the vessel and a pressure exists within the paperboard material at the at least one exposed edge (Column 3, Line 62 to Column 4, Line 5); wherein the cooling phase includes controlling the pressure within the vessel in order to minimize the difference between the pressure in the vessel and the pressure in the paperboard material (Column 3, Line 62 to Column 4, Line 5), thereby helping to prevent moisture from entering into the paperboard of the container. It is known that during sterilization, pressure builds up within the container and additionally, there is pressure exerted within the sterilization vessel environment. Since Ringdahl et al. discloses supporting pressure up to 1 bar more than the pressure within the container, it is known that the supporting pressure can be less than 1 bar or can be equal to the pressure within the container. If the pressure external to the container is equal to the pressure within the container, it is thus known that moisture will not be hindered from being absorbed into the wall of the container.

**As recited in Claim 15**, Ringdahl et al. disclose the method of processing a food product is a static process (Column 3, Line 40-43). It is known that when a container is placed in an autoclave, the container is known to be stationary during sterilization.

**As recited in Claim 16**, Ringdahl et al. disclose a method of processing a fiber-based container containing a food product (Column 4, Line 26-32), the

method including placing the container in a retort vessel (Column 3, Line 39-43), conducting a cooking phase within the vessel (Column 3, Line 43-44), and conduding a cooling phase within the vessel (Column 3, Line 44-46); an improvement to conducting the cooling phase comprising: actively controlling the vessel pressure to a value equal to or less than pressure in the walls of the fiber-based container during at least a portion of the cooling phase. (Column 3, Line 62 to Column 4 Line 5).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1, 2, 4-13 and 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dodrill (US 5,283,033) in view of Lagerstedt (US 6,177,048 B1). **With regard to Claims 1, 2, 4-8, 10-13 and 6-21**, Dodrill teaches a process for sterilizing the contents of a sealed deformable package. **As recited in Claims 1, 10 and 16,** Dodrill discloses a method of processing a food product in a retort vessel (Column 5, Line 18-24, wherein the packaged container is a flexible package (Column 8, Line 9-13); and further placing the closed container in the vessel (Column 5, Line 24) and cooking the food product therein (Column 5, Line 23-24) including regulating the interior conditions of the vessel using a control temperature and a control pressure (Column 5, Line 12-17; Column 8, Line 6-8; Column 6 Line 66 to Column 7, Line 2); and cooling the food product within the vessel (Column 5, Line 65-68); wherein cooling the food product includes reducing the control temperature within the vessel according to a predefined temperature schedule (Figure 1, Item 12; Figure 2, Item 18; Column 6, Line 9-12) and reducing the control pressure within the vessel according to a predefined pressure schedule (Figure 1, Item 12; Figure 2, Item 18; Column 5, Line 68 to Column 6, Line 4). The figures disclose the temperature and pressures as a function of time for the sterilization process as taught by Dodrill; therefore the temperature and pressure are predetermined. Dodrill further teaches at least portions of the pressure schedule following the reduction in pressure resulting from the temperature schedule (Column 11, Line 17). It is known that during cooling as the temperature is reduced the pressure will lower

as well. Thus, Dodrill teaches that the pressure inside the container can be determined using an equation (Column 11, Line 17) wherein the pressure is dependent on the temperature. Dodrill further teaches the method according to Claim 1, wherein the control pressure reaches an amount greater than 1.1 bar overpressure during the cooking phase (Figure 2, Item 18, See Processing Phase; Column 10, Line 41-43), **as recited in Claim 9**. The pressure during the processing phase is approximately 2.4 bar which is greater than 1.1 bar overpressure. **As recited in Claim 10 and 16**, Dodrill teaches wherein the cooling phase includes controlling the pressure within the vessel in order to minimize the difference between the pressure in the vessel and the pressure in the paperboard material (Column 5, Line 12-17; Column 5 Line 68 to Column 6, Line 4), thereby helping to prevent moisture from entering into the paperboard of the container. **As recited in Claim 2**, Dodrill discloses wherein cooling includes an initial cooling phase and wherein the pressure schedule tracks the corresponding pressure reduction due to the concurrent reduction in temperature during the initial cooling phase (Column 7, Line 3-15; Column 7, Line 30-40). **As recited in Claim 4 and 15**, Dodrill discloses wherein the method of processing a food product is a static process (Column 5, Line 18-24). It is further obvious that when a container is placed in an autoclave, the container is known to be stationary during sterilization; the method according to Claim 1, wherein the pressure schedule follows a theoretical reduction in pressure resulting from the temperature schedule (Column 7, Line 41-46), **as recited in Claim 5**. Dodrill

further discloses wherein during cooling the control pressure is equal to or less than the theoretical pressure resulting from the temperature schedule (Column 16, Line 27-68), **as recited in Claim 6**; wherein cooling includes reducing the control pressure in the vessel in a ramped manner (Figure 2, Item 18, see "Come-Down" phase), **as recited in Claim 7**; wherein cooking includes using at least one of spray water, trickling water, water vapor, superheated water, steam, and air (Column 14, Line 35-37), **as recited in Claim 8**. Dodrill further discloses wherein cooling includes reducing the pressure in the vessel at a rate in the range of about 0- bar/minute to about -0.25 bar/minute during a portion thereof (Figure 1, Item 12). The rate of change of the pressure during "come-down" is less than –0.25 bar/minute, **as recited in Claim 11 and 13**. Dodrill further discloses wherein, during at least a portion of the cooling, the control pressure in the vessel is set to a value less than the pressure in the paperboard material at the at least one edge (Column 5, Line 68 to Column 6, Line 4), **as recited in Claim 12**. Dodrill further teaches wherein the vessel control pressure is set to an amount in the range of about 0 bar to about 0.4 bar less than pressure within the walls (Column 5, Line 68 to Column 6, Line 4; Column 6, Line 38-49), **as recited in Claim 17**; the method according to Claim 16 wherein the pressure in the walls is determined based on theoretical calculations (Column 4, Line 37-43), **as recited in Claim 18**; the method according to Claim 16, wherein the cooling phase includes an initial cooling phase, and wherein actively controlling the vessel pressure to a value equal to or less than pressure in the walls of the fiber-

based container is done during the initial cooling phase (Column 5, Line 68 to Column 6, Line 4; Column 6, Line 38-49), **as recited in Claim 19 and 21**; wherein the initial cooling phase is equal to or less than about 16 minutes (Figure 2, Item 18 versus Time), **as recited in Claim 20**. Dodrill teaches during the sterilization process a come-down phase wherein the cooled temperature is reached within 16 minutes.

Dodrill does not teach using a paperboard container to contain the food product.

Lagerdstedt teaches using a method for sterilizing a food product contained within paperboard container for the purpose of preserving the freshness of the product therein.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Dodrill to incorporate a sterilization method wherein a paperboard container within which is contained a food product as taught by Lagerstedt for the purpose of providing a cheap and abundant material from which to package a product. Although it is known that moisture absorbance is an issue with paperboard containers, Dodrill teaches the equalization of pressure between the inside of the flexible packaged container and the sterilization vessel. Maintaining a pressure differential or equalization will prevent moisture from being absorbed into the container. Dodrill further teaches an invention of constantly determining said container's internal pressure to the pressure of the vessel for the purpose of preventing damage to the

container. Thus it would have been obvious to a person having ordinary skill in the art that Dodrill can use a flexible package comprised of paperboard.

9. Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dodrill (US 5,28,033) as applied to claims 1, 2, 4-8, 10-13 and 6-21 above, and further in view of McHenry et al. (US 4,667,454) Dodrill discloses a process for sterilizing the contents of a sealed deformable package as discussed above.

Dodrill does not teach a method of sterilizing a food product within a container, whereby the method of processing said food product is an agitation method.

McHenry et al. disclose a method of sterilizing a food product within a deformable container wherein the sterilization process incorporates agitation of the heated containers and subsequent contents of said heated containers, for the purpose of more uniformly contacting the food product with the sidewalls and bottom wall; thus improving heat sterilization and cooling (Column 15, Line 29-55).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Dodrill to incorporate agitated sterilization, as taught by McHenry et al. for the purpose of providing more uniform cooling and heating which can further control the buildup of pressure. Such a modification will assist in maintaining the integrity of the food container during sterilization.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5,358,030 disclose a method and apparatus for controlling the over-pressure during sterilization as well as control of the temperature during sterilization and cooling. US 4,830,278 disclose a method for steam sterilizing packaged foods, wherein the sterilization has a controlled temperature and pressure and maintaining a pressure differential or equalization of pressure to preserve the integrity of the package. US 6,416,711 B2 disclose a method of sterilizing a packed food product using an agitated sterilization process and further using computer control for maintaining pressure and temperature changes. US 6,472,008 B2 further discloses a method for correcting deviations in temperature and pressure during sterilization.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Viren Thakur whose telephone number is (571)-272-6694. The examiner can normally be reached on Monday through Friday from 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571)272-1398. The fax

phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

8/10/06

Viren Thakur
Patent Examiner
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